

ABSTRACT OF THE DISCLOSURE

A spacer on which static electricity is restricted and an electron beam apparatus in which the spacer is provided. In the electron beam apparatus comprising an electron source provided with electron emission devices, a face plate provided with anodes for accelerating the electrons emitted from the electron source and spacers installed between the electron source and the face plate, unevenness is formed on the surface of the spacer substrate, and further a thin film whose thickness is smaller than the height difference of the above uneven structure is formed thereon. This makes possible the restriction of incident angle multiplication coefficient for the primary electrons whose energy is lower than the second cross-point energy of a highly resistive film, and the value m_0 in the following formula becomes 10 or less. The electron beam apparatus provided with the above spacer is excellent in display definition and long-term reliability since the displacement of light emission points and the creeping discharge accompanying the static electricity can be restricted due to the spacer.

$$\delta\theta/\delta\phi = [1-(1-A)\exp(1-m_0\cos\theta)]/[1-(1-B)\exp(-m_0)]/\cos\theta$$
wherein $A = m_0\cos\theta/\{1+m_1^{-1}\cdot(m_0\cos\theta)^{m^2}\}$,

$$B = m_0\cos\theta/\{1+m_1^{-1}\cdot m_0^{m^2}\}$$